



PATENT  
Ser. No. 10/035,561  
Atty. Docket 11113/9

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of : Guo-Bin Wang and Xianping Zhang  
Serial No. : **10/035,561**  
Filed : November 7, 2001  
For : **Graft Polymerization of Substrate Surfaces**  
Group Art Unit : 1772  
Examiner : Bruenjes, Christopher P.

COMMISSIONER FOR PATENTS  
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Date: June 28, 2004  
Signature: Tracy L. Chantelain

**REPLY UNDER 37 C.F.R. § 1.116 WITH PETITION FOR EXTENSION OF TIME**  
**AND AUTHORIZATION TO DEBIT**

SIR:

Responsive to the Office Action mailed December 29, 2003 and with a three month's extension of time, the present paper is timely filed on or before June 29, 2004.

Amendments to the claims begin on page 2.

Applicants' remarks begin on page 3.

Applicants' Petition for Extension of Time is on page 7.

Applicants' Authorization to Debit is on page 7.

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(*Presently Amended*) A medical device comprising:

a substrate constructed and arranged for insertion into a patient; and

a plurality of monomer molecules directly graft polymerized onto the surface of the substrate from a medium having reversed phase properties from the substrate, in terms of hydrophilicity, wherein the graft polymerization is initiated by an organic free radical initiator on the surface of the substrate and wherein the medium comprises a salting agent in an amount sufficient to induce a salting out effect.

31. (*Original*) A medical device according to claim 31, wherein the substrate is selected from the group consisting of guide wires, and catheters selected from the group consisting of PTCA catheters, cardiology catheters, central venous catheters, urinary catheters, drain catheters, and dialysis catheters.

32. (*Amended*) A medical device according to claim 31, wherein the substrate has at least one lumen, at least a portion of which is coated with monomer molecules graft polymerized to the lumen surface.

33. (*Amended*) A medical device according to claim 33, wherein the substrate has a lumen having both interior and exterior surfaces, and at least a portion of both the interior and exterior of the lumen is coated with monomer molecules graft polymerized to the lumen surface.

34. (*Presently Amended*) A system for forming a graft polymerized medical device comprising:

a substrate constructed and arranged for insertion into a patient;

an organic free radical initiator capable of initiating a graft polymerization reaction on the substrate, to generate reactive radical sites on the surface of the substrate; and

a composition comprising one or more monomers in a medium which has reversed phase properties compared to the substrate, in terms of hydrophilicity, wherein the polymer graft polymerized is grafted directly onto the substrate and wherein the graft polymerization is initiated by an organic free radical initiator on the surface of the substrate the medium further comprises a salting agent in an amount sufficient to induce a salting out effect.